

REMARKS/ARGUMENTS

The Applicants have carefully considered this application in connection with the Examiner's Action and respectfully request reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicants originally submitted Claims 1-11. Previously, the Applicants withdrew Claims 9-11 in response to a Restriction Requirement. Currently, the Applicants have amended independent Claim 1 to correct an inadvertent grammatical error. This amendment will not necessitate a new search on the part of the Examiner. No other claims have been amended, cancelled or added. Accordingly, Claims 1-8 are currently pending in the application.

I. Rejection of Claims 1-3 and 6-7 under 35 U.S.C. §102

The Examiner has rejected Claims 1-3 and 6-7 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,716,685 to Lahaug ("Lahaug"). Independent Claim 1 currently includes the element of performing a second plasma nitridation process on the second oxide layer and the first plasma nitrided oxide layer. Likewise, independent Claim 6 currently includes the element of forming a second plasma nitrided oxide layer on the semiconductor substrate in the regions from which the first plasma nitrided oxide layer was removed. Lahaug fails to disclose these elements.

The Examiner argues that Lahaug teaches simultaneously performing a second plasma nitridation, "reoxidation", of the second dielectric layer and the first dielectric layer. In making this argument, the Examiner points the Applicants to column 4, lines 5-14, of the Lahaug reference. However, the Lahaug reference, at the supplied column and line, makes no such teaching. Actually,

the Lahaug reference fails to provide any teaching, at any column and line, of subjecting the second oxide layer to a plasma nitridation process (e.g., with respect to independent Claim 1), or forming a second plasma nitrided oxide layer (e.g., with respect to independent Claim 6). The Lahaug reference clearly only discloses subjecting the first gate oxide layer 18 to a first plasma nitridation process, thereby forming the oxynitride layer 20. As Lahaug's first plasma nitridation process is conducted before the formation of its second gate oxide layer 30, it cannot be performed on the second gate oxide layer 30, as claimed in independent Claim 1. Moreover, as the first plasma nitridation process is the only nitridation process disclosed in Lahaug, the second gate oxide layer 30 cannot be a second plasma nitrided oxide layer, as claimed in independent Claim 6. Accordingly, Lahaug fails to disclose these claimed elements.

The Examiner may be misinterpreting the term "reoxidation" used at column 4, lines 5-14, of the Lahaug reference, as a teaching of a plasma nitridation process; however, "reoxidation" and nitridation are quite different processes. The Examiner might also be misinterpreting the discussion at column 4, lines 10-15, with regard to the reoxidized first gate oxide 28 incorporating the oxynitride 20, as a teaching of a second plasma nitridation process; however, any nitrogen incorporated into the reoxidized first gate oxide 28 is only a function of it being formed over the oxynitride 20. Accordingly, it is the Applicants' belief that the Examiner is misinterpreting the Lahaug reference.

Therefore, Lahaug does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claims 2-3 and 7 are dependent upon Claims 1 and 6, respectively, Lahaug also cannot be an anticipating reference for Claims 2-3 and 7. Accordingly,

the Applicants respectfully request the Examiner to withdraw the §102 rejection with respect to these Claims.

II. Rejection of Claims 4-5 and 8 under 35 U.S.C. §103

The Examiner has rejected Claims 4-5 and 8 under 35 U.S.C. §103(a) as being unpatentable over Lahaug as applied to Claims 1-3 and 6-7, and further in view of U.S. Patent No. 6,087,236 to Chau, *et al.* ("Chau"). Independent Claim 1 currently includes the element of performing a second plasma nitridation process on the second oxide layer and the first plasma nitrided oxide layer. Likewise, independent Claim 6 currently includes the element of forming a second plasma nitrided oxide layer on the semiconductor substrate in the regions from which the first plasma nitrided oxide layer was removed. As established above, Lahaug fails to teach these elements.

Lahaug further fails to suggest these elements. Specifically, Lahaug fails to suggest these elements because Lahaug fails to teach that any other nitridation process occurs other than the first plasma nitridation process used to form the oxynitride 20 from the first gate oxide layer 18. As no other nitridation process occurs, the second gate oxide layer 30 can not be subjected to a nitridation process, as claimed in independent Claim 1, as well as the second gate oxide layer 30 can not be a second plasma nitrided oxide layer, as claimed in independent Claim 6. Accordingly, Lahaug fails to teach or suggest the aforementioned elements.

The Examiner is offering Chau for the sole proposition of incorporating less than 3 to 30 atomic percent of nitrogen into a dielectric layer. Without even addressing whether the Examiner's proposition is accurate, a teaching or suggestion of incorporating less than 3 to 30 atomic percent of nitrogen into a dielectric layer is significantly different from a teaching or suggestion of performing a second plasma nitridation process on the second oxide layer and the first plasma nitrided oxide layer, as recited in independent Claim 1, or of forming a second plasma nitrided oxide layer on the semiconductor substrate in the regions from which the first plasma nitrided oxide layer was removed, as recited in independent Claim 6. Accordingly, Chau also fails to teach or suggest these claimed elements.

Therefore, Lahaug, individually or in combination with Chau, fails to teach or suggest the invention recited in independent Claims 1 and 6 and their dependent claims, when considered as a whole. Accordingly, the combination fails to establish a prima facie case of obviousness with respect to these claims. Claims 4-5 and 8 are therefore not obvious in view of Lahaug and Chau.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claims 4-5 and 8 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.

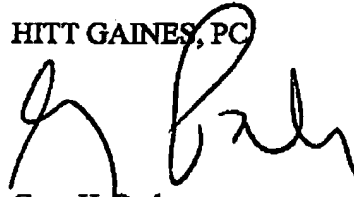
III. Conclusion

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-8.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 20-0668.

Respectfully submitted,

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